



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF EDUCATION

VHEMBE WEST DISTRICT

GRADE 09

NATURAL SCIENCES

TERM 4 FINAL EXAMINATION

NOVEMBER 2023

MARKS: 100

TIME: 2 Hours

This **Question Paper** consists of **EIGHT (08)** pages including the cover.

INSTRUCTIONS:

- 1. Answer all questions.**
- 2. Write neatly and clearly.**
- 3. Do NOT Answer on the question paper**
- 4. Use appropriate drawing instruments where necessary**

SECTION A

QUESTION 1

Various options are provided as possible answers to the following questions. Choose the correct answer and write only the letter (A to D) next to the question number. (1.1. to 1.10.) In your answer book, for example 1.1. D.

1.1. Which of the following is an example of a contact force?

- A. Frictional force
- B. Gravitational force
- C. Electrostatic force
- D. Magnetic force

1.2 The layer of the Earth on which we live or walk is the:

- A. outer core
- B. inner core
- C. mantle
- D. crust

1.3. A simple device that opens and closes a circuit is.....

- A. Resistor
- B. Cell
- C. Ammeter
- D. Switch

1.4. A system for generating electricity is the:

- A. Eskom
- B. National Grid
- C. Turbine
- D. Power Station

1.5. The contact force in a rope or cable when it is used to carry a load.

- A. Compression
- B. Tension
- C. Friction
- D. Electrostatics

1.6. Devices that produces electricity by converting chemical energy into electrical energy.

- A. Voltmeter
- B. Cell
- C. Buzzer
- D. Battery

1.7. Which of the following is not a greenhouse gas?

- A Water vapour
- B Helium
- C Carbon dioxide
- D Methane

1.8. Force that is exerted when two objects touch each other.

- A. Field force
- B. Contact force
- C. Non- contact force
- D. Balance forces

1.9. Unit of electrical current....

- A. Volt
- B. Joule
- C. Ampere
- D. Ohm

1.10. The rapid expansion of the air as a results of the lightning.

- A. Droplets
- B. Thunder
- C. Rain
- D. Spark

10x2= [20]

QUESTION 2

State whether the following statements are TRUE or FALSE

- 2.1. Air pressure in the balloon are pushed closer together when you squeeze the balloon.
- 2.2. Lightning is not an example of effect of electric charge.
- 2.3. Friction can prevent an object to move e.g. if you push a heavy box that is standing on a grass
- 2.4. A possible effect of global warming is a rise of the sea level.
- 2.5. The unit in which weight is measured is kg.

5x1= [5]

QUESTION 3

Give the correct scientific term/word for each of the following descriptions. Write only the term next to the question number. (3.1. – 3.5) on the answer sheet.

- 3.1. A contact force that a surface exerts on an object.
- 3.2. Rocks that form from particles of rocks deposited in layers.
- 3.3. A substance that does not allow electric current to flow through it.
- 3.4. Electric circuit where electrical components are connected next to each other and provides more than one pathway for the current to flow through.
- 3.5. A safety device in a circuit that melts and breaks if the current exceeds a safe level.

5x2= [10]

QUESTION 4

Each of the terms or concepts in COLUMN A matches a description in COLUMN B. Choose the correct and suitable match for COLUMN A from COLUMN B. write only the correct letter (A-F) next to the number (3.1-3.5) of COLUMN A, for example, your answer might be 4.6.F

Column A	Column B
4.1 Like poles	A. Pulling force that two objects exert on each other.
4.2 Mass	B. Contact force that pushes or squeezes something into a smaller space
4.3 Larva	C. Two forces that have visible effects because are not exactly opposite and equal.
4.4. Unbalanced force	D. Similar magnetic poles, that is, north and north or south and south.
4.5 Compression	E. A measure of amount of matter that a body is made of.
	F. Magma that escapes to the surface of the earth.

5x1= [5]

TOTAL SECTION A: 40 MARKS

SECTION B

QUESTION 5

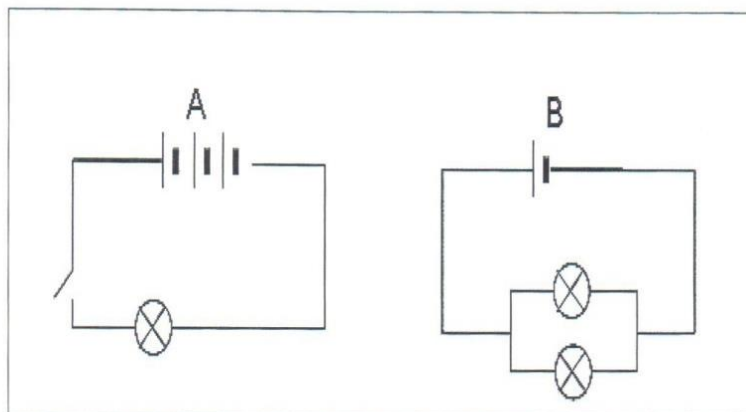
5.1. Write down three different effects that a force can have on an object. (3)

5.2. Using the formula $W=mg$, Calculate the weight of a person who has a mass of 473kg on earth ($g= 9.8$) (3)

5.3. Categorize the following substances into magnetic and non-magnetic substances, Iron, paper, plastic, wood and steel. (5)

[11]

QUESTION 6



Look at the two circuits above A and B, and answer the questions that follows.

6.1. Identify the symbols for the circuit components by redrawing them next to the name provided for each component in your answer sheet.

COMPONENT	SYMBOL
6.1.1. Cell	
6.1.2. Wires	
6.1.3. Light bulb	
6.1.4. Closed Switch	
6.1.5. Battery	

5x1=5

6.2. Compare the two circuit diagrams above and by using your knowledge of electrical circuits, answer the following questions.

6.2.1. In which one of the above circuits will its current flow, and why? (2)

6.2.2. Write down TWO differences in the above two circuits. (2)

6.2.3. Mention four factors that can influence the resistance of a metal conductor and say how each of these factors influences the resistance. (8)

[17]

QUESTION 7

7.1. Write down THREE safety measures which must be followed when working with electricity? (3)

7.2. Illegal connections to Eskom mains supply is dangerous (see the picture below).



7.2.1. What is an illegal connection? (2)

7.2.2. Name ONE reason why illegal connections to mains supply can be very dangerous.

(1)

[6]

QUESTION 8

FAMILY 1	FAMILY 2	FAMILY 3	FAMILY 4
Rice cooker		Rice cooker	Rice cooker
Refrigerator	Refrigerator	Refrigerator	Refrigerator
Electric fan	Electric fan		Electric fan
Light bulb	Light bulb	Light bulb	Light bulb
Radio			Radio
TV	TV		

A grade 9 learner has conducted an investigation in four households. The learner then decided to look at how each household is using the appliances above. It was found out

that in these four households, different appliances are used for a period of three hours daily.

The appliances are: Light bulb (100W), Refrigerator (170W), Rice cooker (550W), TV (700W), An electric fan (120W) and a radio (150W).

8.1. From the above investigation, what would you say is the scientific aim? (2)

8.2 Calculate the total power consumption in kW for family 2 (3)

Hint: Calculate the power rating first for each family and then change your units into kilowatts.

8.3. Which household will pay the highest electricity bill? Give a reason for your answer (2)

8.4. Draw a bar graph comparing the energy consumption in watts for all appliances of the above mentioned four households.

NOTE: when drawing this bar graph use the same colour or the same key for each electrical appliance in all four families. (7)

[14]

QUESTION 9 : Planet Earth and beyond.

Answer the following questions:

9.1. What are the four spheres of the Earth? (4)

9.2. In which sphere do we find organisms? (1)

9.3. What are three layers of the Earth? (3)

9.4. What is global warming ? (2)

9.5. Mention TWO common greenhouse gases. (2)

[12]

TOTAL SECTION B : 60

GRAND TOTAL : 100